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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,734

02/09/2004

Wataru Ishikawa

KOY-17

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20311 7590 03/30/2007  
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EXAMINER

MARTIN, LAURA E

ART UNIT

PAPER NUMBER

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/774,734	<b>Applicant(s)</b> ISHIKAWA, WATARU	
	<b>Examiner</b> Laura E. Martin	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☒ This action is **FINAL**.
- 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterjee et al. (US 5985984) in view of Noguchi et al. (US 20020065335).

#### **Chatterjee et al. discloses the following claim limitations:**

As per claims 1 and 4: a light curable aqueous resin composition (column 1, lines 12-21 and column 2, lines 20-25) comprising a polymerizable compound, and an aqueous photopolymerization initiator which generates free radicals by active ray (column 7, lines 4-35) and a non-ionic surfactant (column 7, line 65-column 8, lines 23).

As per claims 11 and 12: the amount of an organic solvent being 0 to 5% (column 7, lines 48-55 – Chatterjee et al. disclose that there may or may not be organic solvents within the ink; in example four, there amounts of an organic solvent smaller than 5%).

As per claims 13 and 14: the amount of an organic solvent being 0 to 3% (column 7, lines 48-55 – Chatterjee et al. disclose that there may or may not be organic solvents within the ink; in example four, there amounts of an organic solvent smaller than 3%).

**Chaterjee et al. does not disclose the following claim limitations:**

As per claims 1 and 4: a polymerizable compound which polymerizes with radical polymerization by water and active ray.

As per claims 7 and 9: jetting onto an unabsorbant recording material.

As per claims 8 and 10: jetting onto an absorbent recording material.

**Noguchi et al. discloses the following claim limitations:**

As per claims 1 and 4: a polymerizable compound which polymerizes with radical polymerization by water and active ray [0002] and [0027].

As per claims 7 and 9: jetting onto an unabsorbant recording material [0012].

As per claims 8 and 10: jetting onto an absorbent recording material [0054].

As per claims 11 and 12: the amount of an organic solvent being 0 to 5% [0123].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink taught by Chaterjee et al. with the disclosure of Noguchi et al. in order to print with an ink jet printer high quality color images.

Claims 2, 3, 5, 6, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterjee et al. (US 5985984) and Noguchi et al. (US 20020065335) and further in view of Owatari et al. (US 6095645).

**Chatterjee et al. and Noguchi et al. do not disclose the following claim limitations:**

As per claims 2 and 5: a non-ionic surfactant is fluorine system surfactant comprising a perfluoroalkyl group in a molecule.

As per claims 3 and 6: the content of the non-ionic surfactant is 10 to 10000 ppm.

**Owatari et al. discloses the following claim limitations:**

As per claims 2 and 5: a non-ionic surfactant is fluorine system surfactant comprising a perfluoroalkyl group in a molecule (column 3, lines 64).

As per claims 3 and 6: the content of the non-ionic surfactant is 10 to 10000 ppm (column 4, line 7).

As per claims 15 and 16: the content of the non-ionic surfactant is 20 to 1000 ppm (column 4, line 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink taught by Chatterjee et al. as modified with the disclosure of Owatari et al. in order to provide a stable ink composition.

***Response to Arguments***

Applicant's arguments filed 2/8/07 have been fully considered but they are not persuasive. Applicant argues that "Chatterjee and Noguchi do not teach or suggest the criticality of using a non-ionic surfactant"; however, the examiner would like to point out that Chatterjee discloses the use of a non-ionic surfactant in column 8, lines 15-19. Applicant argues that because Chatterjee discloses other types of surfactants, the non-ionic surfactant disclosed by Chatterjee is not preferred; however, the examiner would like to note that Chatterjee has clearly stated that a non-ionic surfactant can be used, and thus, Chatterjee teaches the applicant's claimed invention.

Applicant also argues that "a proper combination of Chatterjee and Noguchi would result in an anionic surfactant"; however, because Chatterjee discloses any of the

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three types of surfactants (anionic, non-ionic, and cationic), any of the three types of surfactants (including non-ionic) can be used in the modification.

Applicant also argues that the declaration demonstrating the criticality of employing a non-ionic surfactant dated 8/24/06 overcomes the present rejection; however, a separate comparison study with the particular reference is needed to overcome the current rejection. Chatterjee teaches a non-ionic surfactant, thus it discloses the claim.

Applicant also argues that Chatterjee does not teach a light-curable type aqueous resin composition; however, Chatterjee discloses a UV curable ink (column 1, lines 6-8), as well as the ink having a guanamine resin (column 1, lines 11-31). Chatterjee discloses an aqueous resin in column 7, lines 35-40 and lines 48-55. The ink contains a resin, a pigment, and a liquid diluent, which can be water. Thus, the resin is in an aqueous solution.

Chatterjee is modified with Noguchi to disclose a polymerizable compound that polymerizes with radical polymerization by water and active ray. Both Chatterjee (as explained above) and Noguchi have aqueous solutions, as well as teach surfactants, thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the ink taught by Chatterjee with the disclosure of Noguchi in order to form high quality images.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

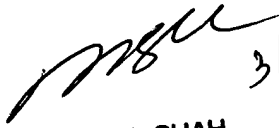
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

 3/27/07  
MANISH S. SHAH  
PRIMARY EXAMINER